In reply, Applicants note the following:

1. Yoshizawa, et al. states that the prior art (column 1, lines 14-63) is generally as shown in Japanese Patent laid-open Application No. 62-274934. In its simplest form this prior art (see also Figure 1 of Yoshizawa, et al.) discloses a conventional radio apparatus comprised of an indoor unit (IDU) and outdoor unit (ODU) connected by a single coaxial cable through which a DC power supply current and some other required signal are sent.

2. Yoshizawa, et al. (Showa) go on to distinguish their invention by describing a single coaxial cable that includes a DC power supply current and a required signal but such signal is unique in that it performs a desirable function that was otherwise not disclosed or anticipated by the prior art, namely that Yoshizawa, et al. transmits digital data (unmodulated or simply plain data) rather than modulated data. The useful purpose for such data transmission is that the resulting radio station apparatus is significantly reduced in complexity, and the ODU is consequently reduced in size as far as possible.

3. Yoshizawa, et al. is essentially describing the useful change that is made to enable the use of Frequency Division Duplex (FDD) techniques. Again, in its simplest form, this means that since an FDD System must, by definition, start with the fact that its receiver and transmitter are always "on", i.e. always transmitting, and they are both therefore preset at a fixed frequency. In turn, the local oscillator 26 in Yoshizawa, et al. tailors the data in the IDU such that the frequency can be fixed and that the data, in turn, can be sent to the ODU unmodulated. The ODU has a modulator to tailor the data for RF transmission.

4. The Applicants have taken the same starting point of the prior art as generally described in Yoshizawa, et al. (and Showa), and have recognized the usefulness of sending a less complex signal over the coaxial cable and reducing the ODU in size, but Applicants have arrived at a very different approach, one that is in no way anticipated by Yoshizawa, et al.

5. Applicants have started with a scheme that intends to dynamically change the frequency centers at a rate of at least 100 milliseconds, if not more frequently. Such dynamic change of frequency enables a much greater reuse of spectrum. However, Yoshizawa, et al's. invention is of no use to this purpose since Yoshizawa, et al. presets the frequency at both the IDU and the ODU.

6. Applicants employ Tiime Division Duplex (TDD), which is a much more sophisticated approach. However, to use TDD and enable the dynamic change of frequency Applicants had to create a means for controlling the ODU 14 from the IDU 12 such that the ODU 14 was still a simple construct with greatly reduced size. This is why the Applicants have added a "control" element to be sent across the single coaxial cable.

7. The Applicants' control element is the means whereby the IDU 12 instructs the ODU 14 as to the freuency, time of transmission, and whether it is to be in receive or transmit mode for each slot of data to be sent across the network. In Applicants' radio, the transmitter and receiver are not always "on" but only operate whenever the IDU 12 instructs the ODU 14.

8. More specifically, Applicants employ a means for collecting status information on the network for each user on the network. This status

information provides data on the requirements for transmission between the user on the multipoint subscriner LAN and the master radio at a base station (see page 12, lines 19-23). This status data is received as information, which like all other information sent over the network, is coded, formatted and modulated. As such, the ODU 14 passes the modulated data signal to the IDU 12 as with any other data. At the IDU 12 the processor 16 proceeds to decode and deformat the data. At this point the IDU 12 recognizes this data as status data and the processor utilizes this status data to determine the transmission requirements for sending data to the user from which this status information was received. This status information is, in turn, used by the processor 16 to reallocate based on this data to accommodate any changes needed to adjust for this new status information (or to continue to use the prior requiements if there is no change). Once the status information is so used, the processor 16 then uses the new/updated allocation information whenever data packets are tagged for transmission to the user from which the status information was received. The packet is then readied for transmission by the processor 16 by encoding and modulating the data and sending it to the ODU 14 for transmission. However, at this point the ODU 14 must be instructed on what frequency and at what time the data packet is to be transmitted. These instructions or control signals are sent to the ODU 14 separately via coaxial cable 74 to power and control the ODU 14 as indicated at block 72 (see Figure 5 and page 17, lines 7-9). These signals are received and extracted at block 84 on the ODU 14 (see Figure 6 and page 17, lines 18-20). These signals instruct the ODU 14 as to the frequency and time for transmitting each slot that is sent to be transmitted (see page 18, lines 15-19 and page 20, lines 10-15). In effect, each slot is acompanied by such an instruction data. By so instructing, the ODU 14 is merely a passive tool that is fully managed by the IDU 12 via the small bandwidth control signal which is used for sending this instruction order. This enables the ODU

14 to specifically tailor each slot or packet of data to be sent to accomodate the latest status information relating to the end user to whom the data is intended, and thereby use the most effective means to transmit. The IDU 12 can therefore designate different frequencies and different time slots for each slot, and it manages the ODU 14 to alternately receive or transmit.

9. The simplicity and elegance of this solution is far beyond the invention described in Yoshizawa, et al. and goes far beyond Yoshizawa, et al's. invention in creating an CDU that is both simple and yet can accommodate the system needs. In Yoshizawa, et al., the ODU was very limited in what it was able to accomplish because it had fixed frequencies.

In view of the above and in the absence of any other art beyond that cited by Applicants and the additional patents cited by the Examiner, which is not similar to Applicants' invention, Applicants' attorney respectfully submits that the application is now in condition for allowance, which allowance is respectfully requested.

A check in the amount of $400.00 is enclosed to cover the Petition fee. Please charge any additional fees or credit any overpayments as a result of the filing of this paper to our Deposit Account No. 02-3978 -- a duplicate of this paper is enclosed for that purpose.

Respectfully submitted,

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Date: May 2, 2002

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